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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,025	03/01/2004	Erik Cardelius	P04,0030	7164

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EXAMINER

FITZGERALD, JOHN P

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/789,025

Applicant(s)

CARDELIUS ET AL.

Examiner

John P. Fitzgerald

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 22 December 2005 have been fully considered but they are not persuasive. Due to Applicant amending the independent claim, a new grounds of rejection has been made, thus making the Applicant's arguments moot, however, the Examiner will explain in detail why the Frola et al. reference reads on claim 1 of the instant invention. First, it should be pointed out that the instant invention is an apparatus, not a method of employing/using the apparatus, or a method of operation of an apparatus. In other words, only structure is claimed, with some elements of function language associated with the structure. The Frola et al. reference clearly discloses all the 'structure' of the instant invention (claim 1) as well as disclosing its function, capabilities and other associated teachings regarding the functional language recited in claim 1. Applicant's main argument is that the Frola et al. reference fails to teach the specific limitations regarding the temperature probe's 'time constant.' The Examiner respectfully disagrees. The Frola et al. reference clearly states, in part : "***From the measured times, the measured temperature and stored formulas, a microprocessor calculates the oxygen (or any other component of the gas mixture) concentration.***" (emphasis added) (Frola et al.: Abstract, and cols. 6-8). This statement broadly includes any type of formula employing the temperature and formulas associated therewith, thus meeting the limitations of the claim, since the claim is an apparatus claim, not a method claim. Applicant's amended claim 1, along with a great deal of functional language, simply added an inherent feature of any temperature measurement device, that is, a time constant associated therewith, being: "said temperature probe

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having a probe time constant that causes said measured temperature to represent a temperature of the gas at a time that does not coincide with the detection time.” Clearly, any temperature measurement device has an associated “time constant,” (typically designated by  $\tau$  for first-order systems and wherein  $\tau$  is 63.2% of applied/actual input), wherein there is a less than immediate response of the temperature measurement device is present. Applicant states as much on page 6 of the submitted “Remarks.” Therefore, once the time constant is determined for the temperature measurement device, one can easily calculate via ‘formulas’ the true temperature at any time, including the claimed “detection time,” as recited in claim 1. One of ordinary skill in the art is well aware and well versed in the characteristics/behaviors of all measurement devices, and that all measurement devices have associated ‘time constants’ and particular ‘response times,’ and as such, can calculate true or ‘full scale’ measured values from such information via ‘formulas.’ Applicant should note that the rationale to modify or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 159 6 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). See also *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (setting forth test for implicit teachings); *In re Eli Lilly & Co.*, 902 F.2d reliance on legal precedent); *In re Nilssen*, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988) (references do not have to explicitly suggest combining teachings); *Ex parte Clapp*, 227 USPQ 972 (Bd. Pat. App. & Int. 1985) (examiner must present convincing line of reasoning supporting

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the rejection); and *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Int. 1993) (reliance on logic and sound scientific reasoning).

2. Applicant's arguments, see pages 8 and 9, filed 22 December 2005, with respect to dependent claims 2-4 have been fully considered and are persuasive. The previous rejection of these claims has been withdrawn.

***Allowable Subject Matter***

3. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over US 5,247,826 to Frola et al. Frola et al. disclose an acoustic gas analyzer including all of the recited elements including an acoustic velocity meter interacting with the gas to be analyzed and emitting a first output dependent upon the transmission of acoustic energy through the gas at a detection time; a temperature probe/measurement device emitting a second output relative the temperature of the gas, the probe having a time constant and all of the associated elements thereof (note: all measurement devices inherently have a 'time constant' associated therewith having all of the recited elements/properties), a signal processor and calculation unit for producing compositional

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information from a temporally adapted output dependent upon the probe constant and it's output at the detection time., since Frola et al. state: "From the measured times, the measured temperature and stored formulas, a microprocessor calculates the oxygen (or any other component of the gas mixture) concentration." (Frola et al.: Abstract, and cols. 6-8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the 'time constant' of a temperature measurement device to temporally adjust the outputs via 'formulas' to calculate the actual temperature measured, for these techniques and common and well known in the measurement and testing arts, since measurement systems cannot respond instantaneously to changes in input, and have to be accounted for in determining/improving the accuracy of the measured output/signal.

### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is invited to review PTO form 892 accompanying this Office Action listing Prior Art, in particular, the Figliola et al. reference, relevant to the instant invention cited by the Examiner.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JF

03/09/2006



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